SWAN RIVER NATIONAL WILDLIFE REFUGE

Kalispell, Montana

ANNUAL NARRATIVE REPORT

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U.S. Department of Interior
FISH AND WILDLIFE SERVICE

NATIONAL WILDLIFE REFUGE SYSTEM

INTRODUCTION

The Swan River National Wildlife Refuge is located in northwest Montana, 38 miles southeast of the town of Creston, in the serene and picturesque Swan Valley Mountain Range. The Refuge was established in 1973 at the request of Montana Senator Lee Metcalf, who desired to see the area preserved. The Refuge consists of 1,568 acres, with an additional 210-acre Forest Service inholding that is managed under a Memorandum of Understanding. The refuge lies in the floodplain of the Swan River above Swan Lake and between the Swan Mountain Range to the east and the Mission Mountain Range to the west. The valley was formed when glacial water poured down the steep slopes of the Mission Range into Flathead Lake. The valley floor is generally flat, but rises steeply to adjacent forested mountain sides. Approximately 80 percent of the refuge lies within this valley floodplain, which is composed mainly of reed canary grass. Deciduous and coniferous forests comprise the remaining 20 percent. Swan River, which once meandered through the floodplain, has been forced to the west side of the refuge by deposits of silt, leaving a series of oxbow sloughs within the refuge floodplain.

Objectives of the refuge are to provide for waterfowl habitat and production and to provide for other migratory bird habitat. The refuge also provides a nesting site for a pair of southern bald eagles and a variety of other avian species. In addition, deer, elk, moose, beaver, bobcat, and black bear are known to inhabit the area. There are no significant developments or facilities on the refuge and present management is directed at maintaining the area in its natural state. The refuge is a satellite unit of the National Bison Range. Day-to-day administration and operations are the responsibility of the on-site Refuge Manager located at Creston, Montana, 38 miles northwest of the refuge.

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A. HIGHLIGHTS

Mountain snowpack resulted in extensive flooding of the refuge again this year (Section F.2.).

Estimated duck production increased 46 percent; Canada goose production decreased 19 percent (Section G.3.).

The bald eagle pair again hatched and successfully fledged two eaglets (Section G.2.).

Total snowfall for the year was at an all-time low, (Section B.).

B. CLIMATIC CONDITIONS

In 1992, total snowfall amounted to only 72", well below last year's record low total of 86". However, total precipitation was 27.9", 5 percent above the 12-year average. The month of March saw a record high of 64° set on the 26th, with only a trace of precipitation recorded. The warm temperatures resulted in reduced snowpacks and a reduction of up to 31 percent in moisture content of the remaining snowpack. Warm temperatures continued into the spring and early summer months resulting in earlier than usual flooding of the refuge. August saw a near record low of 29° and a yearly high of 94°. Snow fell in August down to the 4000' level along the Swan Mountain Range. A record low of 27° was recorded in September; additional mountain snowfall in September gave us a continued early taste of winter weather. Temperatures were near normal for the remainder of the year.

Ice-out occurred in late March; freeze-up of most potholes occurred on November 24.

Climatic data for the refuge is provided by Adolf Kopp Jr. who lives in the town of Swan Lake adjacent to the refuge. Adolf is under contract with the National Oceanic and Atmospheric Administration and voluntarily supplies the data listed in Table I.

Table I. 1992 Climatic Data, Swan River National Wildlife Refuge

MONTH	TEMPERATURE		PRECIPITATION (INCHES)		SNOWFALL
	HIGH	LOW	1992	12-YR AV.	1992
January	47°	- 4°	3.04"	3.12"	20.5"
February	47°	9°	1.72"	2.54"	9.5"
March	64°	18°	0"	2.06"	.0"
April	79°	31°	1.48"	1.49"	.0"
May	84°	27°	2.51"	2.41"	.0"
June	88°	30°	4.17"	1.98"	.0"
July	89°	39°	3.67"	1.57"	.0"
August	94°	29°	1.15"	1.62"	.0"
September	81°	27°	1.95"	1.59"	.0"
October	82°	21°	1.92"	1.76"	.0"
November	48°	3°	1.76"	2.98"	11.0"
December	43°	- 5°	4.53"	3.48"	31.0"
			27.9 "	26.60"	72.0"

C. LAND ACQUISITION

1. Fee Title

There was no land acquisition in 1992. Several meetings concerning the BPA/KERR mitigation process were held again this year. The two mitigation programs continued to be bogged down in bureaucratic red tape. Refer to the Wetland District Narrative for specific information concerning the status of the two mitigation programs.

D. PLANNING

5. Research and Investigations

In September, a special use permit was issued to the Yellow Bay Biological Station for installation of a precipitation/weather station on the refuge.

E. ADMINISTRATION

The Swan River NWR is a satellite unit of the National Bison Range and is manned by the Refuge Manager located at the Creston Fisheries Center. Budgetary, administrative and operational functions are coordinated with the Project Leader at the Range. Refer to the Wetland District Narrative for administrative details.

1. Personnel

Bio-aide Paul Gelhar received an On-The-Spot performance award in August.

6. Safety

Periodic safety meetings held by the hatchery staff were attended. In addition, all refuge fire extinguishers were inspected for mechanical defects.

Bio-aide Gelhar received a rabies antibody booster shot for protection during WMD predator control activities.

A headache rack was built and installed on the 1987 Chevy 4x4 for added protection.

Lyme disease baseline testing was completed by Washtak and Gelhar.

F. HABITAT MANAGEMENT

2. Wetlands

Approximately 1,254 acres of the refuge are classified as a wetland/grassland complex. All of this acreage lies within an "alluvial floodplain" adjacent to the south end of Swan Lake. Vegetation is composed primarily of dense stands of reed canary grass.

With the exception of a culvert under Bog Road on Spring Creek and a staff gauge in the creek used for recording water flow levels, no other water control facilities or developments exist on the refuge.

Approximately 80 percent of the refuge flooded this year. Flooding generally occurs in April, May, and June when mountain snowpack begins to melt. However, the warm March weather resulted in earlier than usual flooding this year. Reduced moisture content of the snowpack also limited this year's flood waters. Swan River, Bond Creek, Yew Creek, and Spring Creek are the principal tributaries which carry the runoff. By early July, water levels in Swan Lake had risen sufficiently to result in additional flooding along the refuge's shoreline. Water flows started to enter the refuge in late March and continued into mid-July this year.

3. Forests

Forested areas comprise approximately 313 acres of the refuge. Wooded tracts lie primarily on the west, south and southeastern portions of the refuge. Major tree species include old growth fir, spruce, cedar, and larch. All forested units are maintained in their natural state.

7. Grazing

There was no grazing on the refuge this year due to the wet soil conditions.

8. Haying

There was no haying on the refuge this year, despite several notices sent to local newspapers. Wet, boggy soil conditions over 60 percent of the proposed hay units contributed to the lack of interest. Haying has been used in the past in an effort to "open up" the dense stands of reed canary grass thus providing additional pair and brood habitat.

10. Pest Control

Canada thistle continued as the most persistent noxious weed found on the refuge. Infestations were generally limited to elevated upland sites and the nesting islands located in the northwest portion of the refuge. High water again limited our access for planned control purposes. Control was limited to pulling or hand chopping any plants that had "bolted".

G. WILDLIFE

2. Endangered Species

The Swan/Mission Mountain Ranges have been designated as a "habitat corridor" of the threatened grizzly bear. The Montana Department of Fish, Wildlife, and Parks (MDFWP) continued studies this year to determine the status of the grizzly in the northern end of this range. No studies were made on the refuge, but the area is excellent grizzly bear habitat. In 1992, no observations of grizzly bears or their sign were made on the refuge.

The nesting pair of bald eagles returned to the refuge again in early February. Two eaglets were fledged in mid-July. The pair and its young were observed utilizing the refuge and the surrounding area on several occasions, presumably feeding on waterfowl, fish, and rodents. In cooperation with State monitoring efforts, we again recorded our periodic observations of the eagles and submitted the annual state bald eagle nesting forms.

On several different occasions, "transient" eagles were observed on the refuge. These birds spent varying lengths of time on, in or near the refuge, then presumably moved to other locations within the Swan Valley.

3. Waterfowl

In 1992, observed duck pairs increased 26 percent from 1991 (Table II).

Table II. Pair Count Data 1987 - 1992

SPECIES	1987	1988	1989	1990	1991	1992
Mallard	35	50	54	39	66	110
Cinnamon/BW teal	23	29	31	19	26	24
Common goldeneye	15	19	30	0	25	28
Wood duck	3	0	3	5	10	5
Common merganser	1	3	8	2	0	3
Wigeon	5	0	3	0	2	2
Pintail	3	0	3	0	1	
Ring-necked duck	0	4	1	6	1	5
Barrows goldeneye	0	0	0	0	0	
Shoveler	0	2	3	0	2	
Bufflehead	1	0	0	11	1	
Green-winged teal	0	3	0	0	0	
Gadwall			1	0	0	
Lesser scaup			4	0	5	
Hooded merganser				3	1	
Total	86	110	141	85	140	177

1992 duck production figures were calculated using a hen productivity rate of .44 based on nest searches conducted on Lake County WPA's. Using this productivity rate, an average brood size of 4.7, and a brood survival rate of .7, estimated production for 1992 came to 256, a 46 percent increase over 1991 production estimates (Table III).

Table III. Estimated Duck Production, 1984-1992 Swan River National Wildlife Refuge

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Ducks	*	244	150	172	91	147	39	175	256

* Duck production unknown, no surveys made.

The reason for the increase in production was attributed to an increased number of pairs and an increased hen productivity rate.

As in past years, waterfowl population estimates were based on aerial census flights and random ground counts made in conjunction with on-going work activities. Peak populations are listed in Tables IV & V. Total waterfowl use-days this year were estimated at 127,410, a 45 percent decline from CY 91 estimates.

Table IV. Peak Waterfowl Populations, Spring Migrations Swan River National Wildlife Refuge

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Swans	40	0	16	100	136	180	150	100	10
Canada geese	300	223	75	150	150	205	400	150	140
Ducks	136	920	367	215	535	2595	1650	5600	500

Table V. Peak Waterfowl Populations, Fall Migrations
Swan River National Wildlife Refuge

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Swans	37	10	10	35	36	*55	150	250	25
Canada geese	165	40	175	175	275	150	350	200	200
Ducks	780	440	847	495	1086	550	2235	2550	340

*Observed in December

Canada goose production estimates are based on aerial pair counts done in April, followed by aerial brood counts in early June. Documenting actual nesting on the refuge remained difficult due to high water levels and general inaccessibility of the refuge. No nesting in elevated structures was observed.

Canada goose production estimates are listed in Table VI. These figures may or may not represent actual production on the refuge. As in previous years, broods which hatched within the Swan River/Lake system migrated to the refuge in search of food, loafing sites, or for safety. Figures listed in Table VI reflect observations made on the day of the aerial survey and do not necessarily reflect actual refuge production. However, these aerial counts, conducted since the mid-70's, are our most accurate index of goose production in the Swan Lake/Refuge system.

In 1992, there was an apparent increase of 65 percent in the number of observed pairs, however, production dropped by an estimated 19 percent. The reason for this decrease in production is unknown but may be attributed to the fact that we just could not locate the goose broods on that particular day of the flight or the fact that the broods were not on the refuge at the time of the flight. Increased predation may also be a factor, but was not documented this year.

Table VI. Swan River NWR, Canada Goose Breeding Pairs and Estimated Production.

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Breeding Pairs	23	15	40	32	25	34	42	23	38
Number of Young Observed	36	94	67	38	77	45	84	32	26

In 1992, we continued our voluntary monitoring efforts with the Swan Lake Chapter of the Audubon Society in an attempt to locate loon nests on the refuge. Several loon calls were heard in May and one loon was observed near the end of the month. However, no nests were located.

4. Marsh and Water Birds

Annual flooding of the refuge in the late spring and early summer months provided excellent marsh habitat for soras, pied-billed grebes, red-necked and horned grebes, American bitterns, great blue herons, and many other species of marsh and water birds. Populations peaked during the mid-summer months; as cooler weather set in during the fall this group of birds readily departed for warmer climates. Nesting probably occurred on the refuge this year but was not documented.

5. Shorebirds, Gulls, Terns & Allied Species

Species utilizing the refuge again this year included California and ring-billed gulls, black tern, Wilson's phalarope, common snipe, American avocet, killdeer, and several species of sandpipers. Populations again peaked in July and August; use-days were estimated at 19,900, a 46 percent increase over 1991 estimates.

6. Raptors

Coniferous and deciduous forest areas on the refuge continued to offer excellent resting and loafing sites for many raptor species. Northern harriers, Swainson's hawks, red-tailed hawks, and great-horned owls were commonly observed on nearly every visit to the refuge this year. Nesting has occurred in the past but was not documented this year.

8. Game Mammals

The refuge provides excellent year-round habitat for many of the big game mammals found in the State of Montana. Deer tracks were commonly seen in most upland areas on the refuge; elk tracks were observed in early February along Bog Road. In 1992, white-tailed deer were the most commonly observed species. Resident populations were estimated at 30-35. Fawning probably occurred, but was not documented.

10. Other Resident Wildlife

Coyotes, beaver, muskrat, and raccoons are known to inhabit the refuge. Observations are generally made near the river areas of the refuge. Coyotes, beaver and muskrat were observed this year.

Observations of new beaver activity along the Swan River were much less than in previous years. Prolific beaver activity along the shoreline of Swan River in past years resulted in destruction of many old growth cottonwood trees. The reason for the decline is unknown but may be attributed to a cyclic decline in the beaver population. Illegal trapping may also have an impact on the population but this has not be documented.

11. Fisheries Resources

Game fish common to Swan River and the Lake include yellow perch, bull trout, northern pike, kokanee salmon, largemouth bass, cutthroat, brook trout, and mountain whitefish.

As in past years, densely vegetated areas of Spring Creek, which empties into Swan Lake on the northeast corner of the Refuge, provided excellent pike spawning habitat. During the May waterfowl pair counts, we again observed many large

"swirls" within the creek indicating continued use of the area by spawning females. The Creek was closed to fishermen as part of the annual refuge closure from March 1 - July 1 (Section H.1.).

H. PUBLIC USE

1. General

Despite the refuge's generally secluded, out-of-the-way location, annual flooding and lack of established interpretive foot trails, non-consumptive public use of the refuge increased by an estimated 45 percent this year (700 estimated visits). The reason for the increase was attributed to the wildlife viewing signs which were installed along Highway 83 a few years ago. Whenever visits to the refuge were made for on-going work programs we usually observed several individuals parked in the parking lot and out enjoying a nature walk down Bog Road.

7. Other Interpretative Programs

Interpretive programs presented again this year included several slide presentations to local school groups concerning management topics involving both the refuge and wetland district. Refer to the Wetland District Narrative for specific information.

8. Hunting

Approximately 40 percent of the refuge is open to waterfowl hunting. Big game and upland game bird hunting is prohibited. The majority of the waterfowl hunt area is located north of Bog Road and along portions of Swan River. Steel shot is required.

This year's duck season was split with three separate openers. The split season was in response to a survey by the State of Montana indicating a hunter desire for as many varied days of hunting as possible. Duck season opened October 3rd, closed on the 18th, opened again on November 3rd, closed on the 29, and finally re-opened December 18th and remained opened until January 3rd.

Several parties were out for the initial opener and had constructed temporary blinds along the lake's shoreline. Success was good, as the birds decoyed easily.

Mild weather continued for the remainder of the month and into the first 3 weeks of November resulting in moderate hunter use. Freeze-up on November 24 pushed any remaining birds to open portions of the river and lake. Hunter activity trailed off during December due to cold, freezing conditions.

Goose season also opened October 3 but ran continuously until January 3. Goose hunting by those hunters on the refuge was usually combined with their duck hunting efforts. No geese were checked in the bag this year. However, several reports of success were received from local residents.

Hunter visits this year were estimated at 250, the same estimate as last year.

9. Fishing

Fishing activity on the refuge is limited to Spring Creek after the closure period. High water levels again limited fishing visits in the river and success was poor. Lower than usual water levels in the river during the late summer months also contributed to a lack of fishing activity.

The most popular fishing spot on Swan Lake continued to be at the mouth of Spring Creek just outside the refuge boundary. Northern pike often lie in the reed beds before going upstream to spawn in the dense aquatic vegetation inside the refuge boundary. As many as 12 boats were observed at the mouth of the creek in mid-May as fishermen tried their luck; success was fair.

17. Law Enforcement

The refuge was patrolled on opening day of waterfowl season this year; no "cases" were made. Other patrol efforts in 1992 were made in conjunction with on-going work activities, including patrol of the Spring Creek access site. In mid-January and early February, several patrols were conducted in an attempt to again control illegal use of snowmobiles on the refuge. However, no citations were issued as the violators could not be located.

In early November, Washtak assisted state wardens with investigation of a deer poaching case near the hatchery complex. The individual was cited for illegally taking a 5-point whitetail; a fine of $515 and loss of hunting and fishing privileges for two years were assessed to the hunter.

Washtak also assisted Pat Gonzales (Lee Metcalf NWR) in giving a two-day transitional training course for the S&W 4046 semi-automatic pistol to two staff members of the National Bison Range.

I. EQUIPMENT AND CONSTRUCTION

4. Equipment Utilization and Replacement

All equipment utilized on the refuge is also used in daily operations and work activities on Flathead County WPA's. In 1992, no new equipment was purchased for exclusive use on the refuge. Refer to the Wetland District Narrative for complete details.

5. Communications Systems

A new telephone system was installed at the hatchery complex in August. Several new lines with speed dialing were installed as well as an intercom system. A phone was also installed in the refuge shop building at the same time.

7. Energy Conservation

In November, ground source heat pumps were installed in both administrative buildings as well as all other hatchery buildings.

J. OTHER ITEMS

4. Credits

Ray Washtak wrote this report. It was edited by Jon Malcolm and typed by Sharon Hooley.